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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,149

03/29/2006

Hubert Cecile Francois Martens

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EXAMINER

BIBBINS, LATANYA

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2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,149	<b>Applicant(s)</b> MARTENS, HUBERT CECILE FRANCOIS	
	<b>Examiner</b> LaTanya Bibbins	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reduced bias power that is gradually reduced in dependence on run length or the reduced bias power comprising at least two reduced bias power levels (as recited in claim 2), the reduced bias power applied from a predetermined moment with respect to the start or the end of the power pattern (as recited in claim 3), the pulses and intermediate periods having a duty cycle of substantially 50% (as recited in claim 6), and the power pattern for a space comprising a cooling period having a cooling power (as recited in claim 7) must be shown or the features canceled from the claims. No new matter should be entered.
3. Additionally, the drawings the drawings are objected to because the rectangular boxes shown in Figure 2 should be provided with descriptive text labels. For instance, providing element 27 of Figure 2 with a "input unit" label is suggested.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The disclosure is objected to because of the following informalities: the specification is inconsistent with the preferred/suggested guidelines for the layout of the specification.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase “Not Applicable” should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. ***Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

**Claim 5** recites the limitation "the minimum run length.". There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution,

Examiner will interpret "the minimum run length" as "the short run length" for which proper antecedent basis is provided in claim 1.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. ***Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Miyamoto et al. (US PGPub Number 2002/0054556 A1).***

Regarding claim 9, Miyamoto discloses record carrier of a recordable type comprising a track for recording information, the recording comprising writing of marks and spaces between the marks, the marks and spaces each having a nominal run length of a predetermined number of bits, and the marks having a multitude of different run lengths for representing the information, the different run lengths being within a range of run lengths and the range including at least one short run length and at least one long run length that is longer than the short run length, controlling the power of the radiation source during said writing in accordance with a power pattern in dependence on the run length, the power pattern for a mark of the long run length comprising at least three pulses having a write power, at least one first intermediate period between the pulses having a bias power, and at least one second intermediate period between the pulses having a reduced bias power, the at least one second intermediate period

including the intermediate period before the final pulse of the power pattern, the record carrier comprising control information for setting the reduced bias power (paragraphs [0009] and [0033]).

The claim is drawn to a record carrier of a recordable type, with the exception of the recited "track for recording information," the claim fails to recite structural features of the record carrier. The recited limitations do not result in any change in the physical structure of the record carrier but rather the intended use of the record carrier. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)). See also MPEP 2114.

### ***Claim Rejections - 35 USC § 103***

**10.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**11. Claims 1-5, and 8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (US PGPub Number 2002/0054556 A1) in view of Miyauchi et al. (JP 09-282662).**

**Regarding claim 1**, Miyamoto discloses a device for recording information in a track on a record carrier the device comprising: a head for generating a beam of radiation from a radiation source for writing marks and spaces between the marks, the marks and spaces each having a nominal run length of a predetermined number of bits, and the marks having a multitude of different run lengths for representing the information, the different run lengths being within a range of run lengths and the range including at least one short run length and at least one long run length that is longer than the short run length (see the discussion in paragraphs [0042]-[0046] particularly regarding the optical head in Figure 2, element 3, and the 3T to 11T mark lengths recorded on the disk) and a radiation source control means for controlling the power of the radiation source during said writing in accordance with a power pattern in dependence on the run length, the power pattern for a mark of the long run length (see the laser driving circuit, Figure 2 element 7 and the discussion in paragraph [0043]).

Miyauchi discloses at least three pulses having a write power (see the waveform of Figure 4b), at least one first intermediate period between the pulses having a bias power (see the waveform of Figure 4b), and at least one second intermediate period between the pulses having a reduced bias power, the at least one second intermediate period including the intermediate period before the final pulse of the power pattern (see the waveform of Figure 4b).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the write strategy of Miyauchi into the recording device of Miyamoto. One of ordinary skill in the art at the time the invention

was made would have been motivated to combine the teachings in order to optimize the shape of recorded pits as suggested by Miyauchi in paragraphs [0004] – [0007].

**Regarding claim 2**, Miyauchi further discloses wherein the reduced bias power is gradually reduced in dependence on the run length, or the reduced bias power comprises at least two reduced bias power levels (Figure 4b).

**Regarding claim 3**, Miyauchi further discloses wherein the reduced bias power is applied from a predetermined moment with respect to the start or the end of the power pattern (see Figure 4b and the discussion in paragraphs [0009] and [0010]).

**Regarding claim 4**, Miyauchi further discloses wherein the long run length is substantially twice the minimum run length in the range of run lengths (see the waveform of Figure 4b and the discussion in paragraph [0008]).

**Regarding claim 5**, Miyamoto further discloses wherein the minimum run length in the range of run lengths is three run lengths units, and the long run length is seven run lengths units (see the discussion in paragraphs [0042] and [0046]).

**Claim 8** is drawn to the method of using the corresponding device claimed in claim 1. Therefore method claim 8 corresponds to device claim 1 and is rejected for the same reasons of obviousness as used above.

**12. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (US PGPub Number 2002/0054556 A1) in view of Miyauchi et al. (JP 09-282662), as applied to claim 1 above, and further in view of Tanaka et al. (US Patent Number 5,825,742).**

**Regarding claim 6**, Miyamoto in combination with Miyauchi disclose the device as claimed in claim 1. Miyamoto and Miyauchi fail to specifically disclose the duty cycle of the pulses and intermediate periods, the bias power level, and the reduced bias power level.

Tanaka, however, discloses wherein a duty cycle of the pulses and intermediate periods is substantially 50% (see the waveform of Figure 8 where Pw1 and Pw2 represent the claimed write power, Paw represents the claimed bias power, and Pae represents the claimed reduced bias power) and the bias power is between 40% and 50% of the write power (see the discussion in column 11 lines 3-5), and the reduced bias power is between 20% and 35% of the write power (see the discussion in column 11 lines 3-5), in particular the bias power being substantially 45% of the write power (see the discussion in column 11 lines 3-5), and the reduced bias power being substantially 30% of the write power (see the discussion in column 11 lines 3-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the duty cycle and power levels taught by Tanaka into the device of Miyamoto and Miyauchi. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reduce edge shift and jitter in high frequency recording (as suggested by Tanaka in column 3 lines 34-39).

**Regarding claim 7**, Tanaka further discloses wherein the power pattern for a space comprises a cooling period having a cooling power, in particular the cooling

Art Unit: 2627

power being less than 1% of the write power (see the waveform of Figure 8 and the discussion in column 11 lines 8-12).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/  
Examiner, Art Unit 2627

/Wayne Young/  
Supervisory Patent Examiner, Art Unit 2627